Clitic placement in South Slavic[*]

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Abstract. The paper examines clitic placement and the nature of clitic clustering in Serbo-Croatian, Bulgarian, and Macedonian. It is argued that Serbo-Croatian clitics do not cluster syntactically; they are located in different projections in the syntax. The order of clitics within the clitic cluster is argued to follow from the hierarchical arrangement of projections in which they are located. The paper also provides a principled account of the idiosyncratic behavior of the auxiliary clitic *je*, which in contrast to other auxiliary clitics follows pronominal clitics. In contrast to Serbo-Croatian clitics, Bulgarian and Macedonian clitics are argued to cluster in the same head position in the final syntactic representation. The cluster is formed through successive cyclic leftward adjunctions of clitics to the verb, in accordance with the LCA. Following Chomsky's (1994) suggestion that clitics are ambiguous head/phrasal elements, it is argued that clitics do not branch, hence cannot take complements. This claim leads to a new proposal concerning the structural representation of several clitic forms.

This paper examines clitic placement and the nature of clitic clustering in the South Slavic languages. On the more theoretical side, the paper addresses the question of whether PF can affect word order. It also makes a proposal concerning the structural representation of clitics which is meant to hold crosslinguistically. In section 1 I examine the clitic system of Serbo-Croatian (SC), a second position clitic language. In section 2 I turn to Bulgarian and Macedonian, whose clitics are traditionally considered to be verbal.

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1. Serbo-Croatian clitics

The phenomenon of second position cliticization in SC is illustrated by (1a-d). Locating clitics in any other position or splitting the clitic cluster in (1) would lead to ungrammaticality. (Clitics are given in italics.)

(1) a. Mi *smo mu je* predstavili juče.
      we are him.dat her.acc introduced   yesterday
      'We introduced her to him yesterday.'
   b. Zašto *smo mu je* predstavili juče?
      why are him.dat her.acc introduced yesterday
      'Why did we introduce her to him yesterday?'
   c. Ona tvrdi da *smo mu je* mi predstavili juče.
      she claims that are him.dat her.acc we introduced yesterday
      'She claims that we introduced her to him yesterday.'
   d. Predstavili *smo mu je* juče.
      introduced are him.dat her.acc yesterday
      'We introduced her to him yesterday.'

Second position cliticization in SC has recently attracted a great deal of attention (see Anderson 1996, Bennet 1986, 1987, Boeckx and Stjepanović 2000, Bošković, 1995, 1997a, 2000a, 2001a, Bošković and Franks 2002, Browne 1974, 1975, 1993, Caink 1998, 1999, Ćavar and Wilder 1994, Dimitrova-Vulchanova 1995, Embick and Izvorski 1997, Franks 1997, 1998, 1999, 2000a, Franks and King 2000, Franks and Progovac 1994, Halpern 1995, Hock 1992, King 1996, Law 2001, Percus 1993, Phillips 1996, Progovac 1996, 1998, 1999, 2000, Radanović-Kocić 1988, 1996, Rivero 1997, Roberts 1994, Schütze 1994, Stjepanović 1998a,b, 1999, Tomić 1996, 2000, Wilder and Ćavar 1994a,b, 1997, Zec and Inkelas 1990). Most recent work on the topic focuses on clitic placement and the nature of the second position effect. These issues are often considered to be related, especially in the syntactic approaches to the second position effect. However, in Bošković (2000a, 2001a), I argue that the two issues are largely independent, clitic placement being accomplished entirely in the syntax and the second position effect being a phonological effect. In this paper I will concentrate on the question of clitic placement, mostly ignoring the second position effect. However, a few words are in order on the nature of the second position effect so that we can control for it during the discussion of clitic placement.

1.1 The second position effect

The traditional statement that SC clitics are second within their clause is actually incorrect. It is well-known that certain elements, such as appositives, fronted heavy constituents, and parentheticals, can delay clitic placement, which results in clitics occurring further than the second position of their clause. This is shown by (2)-(4), where the clitics occur in the third and the fourth position of their clause. (For discussion of delayed clitic placement, see Bennett 1986, Bošković 1995, 2000a, 2001a, Browne 1974, 1975, Ćavar and Wilder 1994, Franks 1998, Franks and King 2000, Halpern 1995, Percus 1993, Progovac 1996, Radanović-Kocić 1988, 1996, Schütze 1994, Tomić 1996, and Zec and Inkelas 1990, among others).

(2) Sa   Petrom Petrovićem srela *se*   samo Milena.
     with Petar   Petrović   met   self only Milena
     'With Petar Petrović, only Milena met.'
(3) Znači   da,   kao što rekoh, oni   *će*   sutra   doći.
     means that as   said   they will tomorrow arrive
     'It means that, as I said, they will arrive tomorrow.'
(4) Ja, tvoja mama, obećala   *sam ti*   sladoled.
     I   your mother promised am you.dat ice cream
     'I, your mother, promised you an ice cream.'

As observed in Bošković (2000a, 2001a) and Radanović-Kocić (1988), the distribution of SC second position clitics, illustrated above, can be stated in very simple prosodic terms:

(5) SC clitics occur in the second position of their intonational phrase.

Nespor and Vogel (1982, 1986), Selkirk (1986), and Hayes (1989), among others, have proposed a hierarchical theory of the prosodic structure, which is determined by, but does not completely correspond to, the syntactic structure of the sentence. One of the units of this prosodic structure is intonational phrase (I-phrase). Following standard assumptions, I assume that unless interrupted by a special element that forms a separate intonation domain, each clause is mapped to a single I-phrase. More precisely, the left edge of a CP corresponds to an I-phrase boundary. Certain elements, such as appositives, parentheticals, and heavy fronted constituents, are special in that they form separate I-phrases, evidence for which is provided by the fact that they are followed by pauses. (An I-phrase thus does not always correspond to a CP.) Under the most natural pronunciation, clitic second constructions such as (6) then contain only one I-phrase.

(6) Zaspao   *je*   Ivan.

    fallen-asleep is   Ivan

    'Ivan fell asleep.'

In (2)-(4), on the other hand, the relevant clauses are parsed into more than one I-phrase, since the appositive in (4), the fronted heavy constituent in (2), and the parenthetical in (3) form separate I-phrases. This means that a new I-phrase starts after these elements. Note that the elements in question are obligatorily followed by a pause, an indication of an I-phrase boundary. (For more phonological evidence to this effect, see Radanović-Kocić 1988, 1996.) Given this, it is clear that the clitics are located in the second position of their I-phrase in (2)-(4). When we attempt to place a clitic in the third position of its I-phrase, we get an ungrammatical sentence, as indicated by (7), which contains only one I-phrase, namely the whole clause.[1] The constructions in (9) are also ungrammatical because, in contrast to (3)-(4), they run afoul of (5).

(7) *Petra   srela *je* samo Milena.

    Petar.acc met   is only   Milena.nom

    'Petar, only Milena met.'

(8) cf. Petra *je* srela samo Milena.

(9) a. *Ja obećala   *sam ti*   sladoled.

      I   promised am   you.dat ice cream

   b. *Znači da oni   *će* sutra   doći.

      means that they will tomorrow arrive

(10) a. cf. Ja   *sam ti* obećala sladoled.

    b. cf. Znači da   *će* sutra doći.

      To summarize, the correct descriptive generalization concerning the distribution of SC second position clitics is not that they are second within their clause, but within their I-phrase, which strongly indicates that the second position effect is phonological in nature.

      An interesting confirmation of (5) is provided by the following data from Bošković (2001a).

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[1]As noted by Browne (1975), even moved constituents that are not heavy can delay clitic placement as long as they bear heavy contrastive stress and are followed by a pause, which indicates that the relevant elements are forming separate I-phrases. I disregard this possibility here.

(11) *Ko   koga   *je* poljubio?
        who whom is kissed
        'Who kissed who?'
(12) ?Koji   čovjek, koju   *je* knjigu kupio?
         which man   which is book   bought
         'Which man bought which book?'

The ungrammaticality of (11) is not surprising. Given Rudin's (1988) claim that fronted wh-phrases in SC do not form a constituent, (11) conforms to the phonological statement of the second position effect: the clitic is not located in the second position of its I-phrase (assuming a straightforward mapping between syntactic and prosodic constituents). Interestingly, as shown in (12), such constructions become better with heavier wh-phrases.[2] The first wh-phrase in (12) is followed by a pause, which I take to be an indication of an I-phrase boundary. As a result, the clitic is located in the second position of its I-phrase in (12). The prosodic statement of the second position effect in (5) readily captures the contrast between (11) and (12). On the other hand, it is difficult to see how the contrast can be accounted for under a purely syntactic account since all proposed analyses of multiple wh-fronting constructions assign (11) and (12) the same syntactic structure.

In Bošković (2000a, 2001a) I give an account of the descriptive generalization in (5). The upshot of the analysis is that as a result of their PF lexical properties, SC clitics must encliticize to a constituent that is right-adjacent to an I-phrase boundary. As a result, they must be second within their I-phrase. The analysis forces phonological clustering of I-phrase-mate clitics, but not clause-mate clitics. However, it does not force syntactic clustering of clitics in the sense that it does not force clitics necessarily to occur in the same head position (see section 1.3. for discussion of syntactic placement of SC clitics). Thus, under the analysis presented in Bošković (2000a, 2001a), (13) is ruled out in PF because prosodic properties of the pronominal clitic are not satisfied. In other words, the pronominal clitic is not located in the second position of its I-phrase, in violation of (5).[3]

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[2]The relevance of this type of construction was pointed out to me by Steven Franks (personal communication).

[3]As discussed in Bošković (2000a, 2001a), *da*-clauses are parsed as separate I-phrases, which means that an I-phrase boundary precedes *da.* As a result, the auxiliary clitic satisfies (5).

(13) ...*da *su* juče   *ga* istukli.
         that are yesterday him beaten
         'that they beat him yesterday.'

It is well-known that Slovenian differs from SC in that its clitics can be either enclitics or proclitics (see Bennett 1986, Bošković 2001a, Browne 1986, 1994, Derbyshire 1993, Franks 1998, Franks and King 2000, Golden and Milojević Sheppard 2000, Orešnik 1983-1984, Priestly 1993, and Toporišič 1984, among others). As discussed in Bošković (2001a), their host still must be adjacent to an I-phrase boundary. The difference between SC and Slovenian is that in Slovenian, clitics can either procliticize or encliticize to the host. As a result, prosodically, nothing prevents breaking of a clitic cluster in Slovenian by an element that is itself adjacent to an I-phrase boundary. As observed in Bošković (2001a:162), some constructions of this type are indeed acceptable in Slovenian. (A possible context for (14) would be a question expressing the speaker's doubt about yesterday.)

(14) ?*So* včeraj   *ga* pretepli?
        are yesterday him beaten
        'They beat him yesterday?'

This confirms the relevance of prosodic requirements to clitic clustering in the languages in question.

I conclude here the discussion of the second position effect and turn to clitic placement. During the discussion of the syntax of clitic placement we will need to control for the second position effect. More precisely, we will need to make sure that (5) is obeyed. A construction that violates (5) will be ruled out in PF independently of whether syntactic requirements of its clitics are satisfied.

1.2 Prosodic Inversion

Before discussing the details of syntactic placement of SC clitics I will examine an important argument for PF movement based on SC cliticization.

Halpern (1995) proposes that in certain well-defined configurations SC clitics undergo a PF movement operation. Halpern argues that if a SC clitic is located sentence-initially in the output of the syntax, it will move in the phonology looking for an appropriate host. The underlying assumption here is that SC second position clitics have a lexical requirement that forces them to encliticize to a stressed element. Clitics are allowed to move in PF in order to

satisfy this requirement. Given the well-defined motivation for PF movement, the movement ends up being very local--it places the clitic in a position immediately following the first stressed word. Halpern (1995) calls the operation responsible for moving clitics in PF Prosodic Inversion (PI). He considers it to be a last-resort operation that affects clitics only if their prosodic requirements are not satisfied and moves them only the minimal distance necessary to satisfy the requirements.[4]

Halpern proposes PI to account for the traditional observation (see Browne 1974 and Comrie 1981) that SC clitics can be located either after the first phrase of their sentence (1P environment), as in (15), or after the first word (1W environment), as in (16), where a clitic appears to break up a phrasal constituent:

(15) Tog čovjeka *su* vidjeli.
     that man   are seen
     'They saw that man.'
(16) Tog *su* čovjeka vidjeli.

It is standardly assumed that in (15), where a whole phrase precedes the clitic, syntactic movement can provide a host for the clitic. Halpern argues that in 1W environments such as (16) PI provides a host for the clitic. According to Halpern, the clitic is sentence initial in the output of the syntax. (Halpern actually does not provide independent evidence for this claim.) PI then takes place in the phonology, placing the clitic after the first stressed word, namely *tog*.

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[4]The definition of PI from Halpern (1995:63) is given in (i).

(i) For a DCL [directional clitic], X, which must attach to a ω [phonological word] to its left (respectively right),
     a. If there is a ω, Y, comprised of material which is syntactically immediately to the left (right) of X, then adjoin X to the right (left) of Y.
     b. else attach X to the right (left) edge of the ω composed of syntactic material immediately to its right (left).

Similar operations were proposed for other languages by Marantz (1988, 1989), Sproat (1988), Sadock (1991), and Taylor (1990). For Prosodic Inversion analyses of SC, see also Embick and Izvorski (1997), King (1996), Percus (1993), and Schütze (1994).

(17) a. Syntax: *su* tog čovjeka vidjeli.
    b. PF: Tog *su* čovjeka vidjeli.

PI may be the strongest case ever made for PF movement. A number of constructions have been recently suggested to involve PF movement, for example, traditional rightward movement constructions and scrambling. In most cases, this is not because such constructions are particularly amenable to a PF movement analysis but because they do not fit well in the syntax. This is not the case with PI. PI is a clearly defined movement operation, with a precise phonological motivation and explicitly defined locality restrictions sensitive to phonological information, which is generally not a characteristic of other putative examples of PF movement. Strongest arguments for PI come from South Slavic cliticization. However, a closer scrutiny reveals that not only is PI not necessary to account for South Slavic cliticization, but that South Slavic cliticization provides very strong evidence against it. I will focus here on SC; the reader is referred to Bošković (2001a) for discussion of PI with respect to Bulgarian and Macedonian, as well as the *li*-construction across Slavic languages.

    Notice first that we do not need PI to derive (16). SC is a language that freely allows left-branch extraction (see Bošković 2001c for discussion of left-branch extraction). Determiners, and left-branches of NPs in general, can be routinely separated from nouns, as illustrated by (18), which cannot be derived by PI and must involve syntactic movement (left-branch extraction) of *kojeg/tog*. (More precisely, what (18), where the separation of *kojeg/tog* and *čovjeka* cannot be accomplished by PI, shows is that we need to be able to separate determiners from nouns in SC independently of PI.)

(18) Kojeg/Tog$_i$ tvrdiš da   *su* t$_i$ čovjeka vidjeli.
   which/that   claim that are   man   seen
    'Which man do you claim that they saw.'
    'That man, you claim that they saw.'

Based on this, Progovac (1996) and Wilder and Ćavar (1994a) argue that the 1W/1P dichotomy with respect to clitic placement in (15)-(16) is an artifact of the general possibility of left-branch extraction in SC. According to them, in (16) we are also dealing with 1P placement, with the phrase preceding the clitic being located in front of the clitic at SS after undergoing left-branch extraction. What is important for our current purposes is that we do not need PI to derive (16), which should be clear given the grammaticality of (18), which is underivable through PI.

    Strong evidence against PI is provided by constructions in which a syntactically immobile element attempts to host a clitic. In (19) we have an element that apparently cannot

undergo syntactic movement. As shown in (20) and discussed by Progovac (1996) and Wilder and Ćavar (1994a), the element in question also cannot precede a second position clitic.[5]

(19) *Prema$_i$ hodaju t$_i$ Mileni.
     toward walk   Milena.dat
      'They are walking toward Milena.'
(20) *Prema *su* Mileni   hodali.
      toward are Milena.dat walked
     'Toward Milena they walked.'
(21) cf. Oni *su* prema Mileni   hodali.
        they are toward Milena.dat walked

Given (21), it should be possible for the syntax to provide the following structure as input to PF:

(22) *su* [$_{PP}$ prema Mileni] hodali.

PI should then apply placing the clitic after *prema*, incorrectly deriving (20).

     Certain facts concerning split names discussed in Franks (1997) confirm that only elements that can be placed in front of clitics by syntactic movement (or be base-generated in front of clitics) can host clitics, which means that syntax, rather than phonology, provides a host for SC clitics. In SC it is possible in some cases to inflect for structural case either one or both names in first+last name complexes.[6]

(23) a. Lava   Tolstoja   čitam.
        Leo.acc Tolstoi.acc read
        'Leo Tolstoi, I read.'
     b. ?Lava   Tolstoj   čitam.
        Leo.acc Tolstoi.nom   read

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[5]Most SC prepositions are lexically unaccented (they procliticize to the following stressed word) and therefore cannot host clitics, which need a phonologically strong host. However, *prema* is accented.

[6]Nominative is the default case in (23)-(25). Steven Franks (personal communication) suggests treating the nominative elements in the constructions in question as frozen (i.e. uninflected) forms.

c. Lav   Tolstoja   čitam.
Leo.nom Tolstoi.acc read

The first name can be separated from the last name by movement only when they are both inflected for structural case.

(24) a. Lava čitam Tolstoja.
    b. *Lava čitam Tolstoj.
    c. *Lav čitam Tolstoja.

Significantly, cliticization patterns with movement in the relevant respect.[7]

(25) a. Lava   *sam* Tolstoja   čitala.
     Leo.acc am Tolstoi.acc   read
     'Leo Tolstoi, I read.'
  b. *Lava   *sam* Tolstoj   čitala.
     Leo.acc am Tolstoi.nom read
  c. *Lav   *sam* Tolstoja   čitala.
     Leo.nom am Tolstoi.acc read

Franks observes that this is expected if only elements that can be base-generated or syntactically moved in front of a clitic can precede the clitic. On the other hand, under the PI analysis we would expect all of the constructions in (25) to be acceptable, since nothing blocks the derivation in which the names remain in SpecIP overtly, with the clitic located above the subject (C under most PI analyses). PI would then place the clitic after the first name, the first stressed word following the clitic, thus deriving (25), incorrectly predicting all of these constructions to be good.

    More evidence against PI and for strictly syntactic clitic hosting is provided by possibilities for contrastive focus in constructions involving complex names, noted in Bošković (2001a). As shown in (26), either the first name or the last name of a complex town name split by a clitic can be contrastively focused.[8] However, it is not possible to contrastively focus the

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[7]Franks notes this with respect to examples in which only the first name is inflected for structural case. As noted in Bošković (2000a), nothing changes if only the second name is inflected for structural case.

[8]Under the most natural interpretation, one of the names split by a clitic is contrastively focused.

whole complex name if the name is split by a clitic. To do that, the clitic has to follow the whole name.[9]

(26) a. U GORNJI *su*   Vakuf došli,   ne DONJI.
        in Gornji   are Vakuf arrived not Donji
        'In Gornji Vakuf they arrived, not Donji (Vakuf).'
   b. U Bačku *su* TOPOLU došli,   ne PALANKU.
        in Bačka are Topola   arrived, not Palanka
        'In Bačka Topola they arrived, not (Bačka) Palanka.'
   c. *U NOVI *su* SAD došli,   ne ZRENJANIN.
         in Novi   are Sad arrived, not Zrenjanin
        'In Novi Sad they arrived, not Zrenjanin.'
   d. U NOVI SAD *su* došli, ne ZRENJANIN.

These facts are surprising if in split-name constructions the clitic is placed after the first name by PI, in which case (26) would have the following S-Structures.

(27) a. *su* u Gornji Vakuf došli...
   b. *su* u Bačku Topolu došli...
   c. *su* u Novi Sad došli...

We could try to account for focus possibilities in these constructions by assuming that the position immediately following the clitic is a focus position, to which focused elements move. The problem is to limit the focus requirement to the first name. It appears that nothing blocks the derivation in which the whole complex town name is contrastively focused. By applying PI we then incorrectly derive (26c), with the whole complex town name focused. (Note that the

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This might be the reason why some speakers find constructions like (25a) somewhat degraded.

[9]Note that *Donji Vakuf* and *Bačka Palanka* exist. To the best of my knowledge, there is no *Novi Zrenjanin* or *Zrenjanin Sad*. Contrastively focused elements are given in capitals. Note that non-clitic material can also intervene between the names, as in (i).

(i) U Gornji *su*   oni   Vakuf došli.
   in Gornji are they Vakuf arrived
   'In Gornji Vakuf, they arrived.'

preposition *u* is not stressed and therefore not a phonological word.)

(28) Syntax: *su* u NOVI SAD došli...
     PF: U NOVI *su* SAD došli...

The data in (26) can be readily accounted for under purely syntactic movement accounts of SC cliticization. Apparently, there are two focus positions in SC, one above the auxiliary clitic and one below it (see Bošković 1997b and Stjepanović 1995, 1999 for precise locations of these positions). The first option is illustrated by (26a,d) and the second by (26b).[10] Notice that if a clitic host can be placed in front of the clitic only through syntactic movement (I am ignoring here elements that are base-generated in front of clitics), we have a direct correspondence between PF word order and the output of the syntax. Since neither the pre-auxiliary nor the post-auxiliary focus position contains the whole complex name in (26a-c), the whole complex name cannot be focused, only its parts can be. In (26d), the whole name can be focused, since the whole name can be located in the focus position in the syntax.

I conclude, therefore, that split-name constructions, which have previously been argued to provide evidence that clitic placement cannot be syntactic (see, for example, Anderson 1996), are not only consistent with syntactic placement accounts, but in fact provide strong evidence against PI.[11]

To summarize the discussion in this section, the data discussed above indicate that only elements that can be independently shown to be able to undergo syntactic movement can precede and host clitics in SC. The Prosodic Inversion analysis should be rejected since it fails to capture the correlation between syntactic movability and the ability to host a clitic. I conclude, therefore, that the mechanism of Prosodic Inversion is not available in natural language. Since Prosodic Inversion was probably the strongest argument for PF movement, it is tempting to conclude that there is no PF movement at all (for much relevant discussion, see Bošković 2001a.)

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[10]I assume that it is not possible to "activate" both focus positions in the same clause. Doing this would often lead to a relativized-minimality violation with focus movement (i.e. focus movement across a focused element). Notice also that constructions involving multiple clause-mate foci are extremely rare crosslinguistically, most languages disallowing them (see Kiss 1995).

[11]The same holds for its non-movement versions that place clitics after the first word post-syntactically (see Anderson 1993 and Caink 1998).

1.3 Clitic placement

In this section I address the issue of clitic placement. Until recently, it was standardly assumed that SC clitics are always located in C. I argued against this position in Bošković (1995). Since then, a number of arguments against it have been given in the literature (see, for example, Bošković 2000a, 2001a, Caink 1998, Progovac 1999, Stjepanović 1998a,b, 1999, and Wilder and Ćavar 1997). Since the clitics-in-C position seems to be completely abandoned, I will not dwell on it here.

I will focus on an analysis which shares with the clitics-in-C analysis the assumption that SC clitics are located in the same head position. The analysis in question, which was proposed independently in Franks (1998) and Caink (1998) (see also Franks 2000a, Franks and King 2000, and Caink 1999), holds that SC clitics are located as high as possible, i.e. in the highest head position of their clause. Together with some recent work (see Bošković 1997a and references therein), the authors in question assume that only phrase structure which is independently required is projected. As a result, since clauses do not always have the same phrase structure projected, under their analysis SC clitics do not have a fixed structural position. They can also end up being pretty low in the structure (by low I mean lower than CP, were it projected). As a result, several problems that arise under the clitics-in-C analysis do not arise under the clitics-in-the-highest-head-position-of-the-clause analysis. However, this analysis has some problems of its own. Focusing on Franks's version of the analysis on which clitics undergo overt movement to the highest head position of their clause, as discussed in Bošković (2001a), it is very difficult to implement this analysis. In particular, there is no principled way in the current theory to ensure that SC clitics always move overtly to the highest head position projected. Franks assumes that the movement is driven by a strong feature of clitics. Since clitics do not have a fixed structural position, it must then be the case that the strong feature is checked through movement to different positions in different clauses. It is very difficult to see how this state of affairs can be formalized in a principled way (see Bošković 2001a for additional problems concerning the successive cyclic nature of the clitic movement and the relation between clitic- and V-movement). However, the most serious problem with this analysis is that, just like the clitics-in-C analysis, the analysis in question crucially relies on the assumption that clause-mate clitics are all located in the same head position. There is considerable amount of evidence that the assumption is untenable, which means that any analysis that crucially relies on it must be rejected on empirical grounds. I discuss the relevant evidence in the next section. The discussion will also give us an insight into the actual structural positions of SC clitics.

1.3.1 SC clitics do not cluster in the same head position

Stjepanović (1998a, b) provides evidence that clause-mate clitics in SC do not cluster in the same head position in the syntax based on VP ellipsis. She observes that VP ellipsis in SC can delete part of a clitic cluster, leaving some clitics behind.[12]

(29) a. Mi *smo mu*   *ga*   dali, a   i   vi   *ste* ~~*mu*~~   ~~*ga*~~   ~~dali~~ (takodje).
      we are him.dat it.acc given and also you are him.dat it.acc given too
      'We gave it to him, and you did too.'
   b. cf. *Mi *smo mu ga* dali, a i vi *mu ga* ~~*ste*~~ ~~dali~~   (takodje).

The possibility of VP ellipsis in (29a) raises a serious problem for the assumption that clitics cluster under the same node in SC. Under this assumption, (29a) has to involve deletion of a non-constituent, which is standardly assumed not to be possible. Stjepanović takes (29a) as evidence that SC clitics are not located under the same node in the syntax, i.e., they are located in separate maximal projections, the auxiliary clitic being higher than the pronominal clitics. (The ungrammaticality of (29b) is consistent with this assumption.) Example (29a) can then be analyzed as involving constituent deletion.

      Another argument that clause-mate clitics in SC are not located in the same head position is provided by Wilder and Ćavar (1997) based on clitic placement in coordinations like (30).

(30) Ivan *je* kupio auto i   razbio *ga*.
    Ivan is bought car and ruined it
    'Ivan bought a car and ruined it.'

If clause-mate clitics must be located in the same head position, (30) must involve coordination of two clauses. This means that the second conjunct must contain a deleted auxiliary, as shown in the structure in (31). (Wilder and Ćavar 1997 are following the standard assumption of syntactic accounts of that time that clitics are located in C. Nothing, however, changes if (30) involves clausal coordination on the IP, rather than the CP level. Notice also that by itself, *Razbio ga je* is acceptable.)

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[12]The constituent undergoing ellipsis in (29) could actually be larger than VP. (The same remark applies to the VP coordination and the VP fronting data discussed below.)

(31) [CP Ivan *je* kupio auto] i [CP [C0 razbio *ga ~~je~~*] [IP pro...]]

On the other hand, if clause-mate clitics in SC do not have to be located in the same head position (more precisely, if auxiliary clitics can be higher in the structure than pronominal clitics), (30) can be given the structure in (32), with no deleted auxiliary in the second conjunct (see Bošković 2001a for a more detailed discussion of the structure of (31).)[13]

(32) [CP Ivan *je* [VP kupio auto] i [VP razbio *ga*]]

Wilder and Ćavar observe that the deletion of the auxiliary in (31) should not be allowed. It violates the condition on ellipsis in (33), whose effect is illustrated by the impossibility of deleting the clitic in the second conjunct of Spanish (34a).

(33) No part of an X^0 may be deleted (forward deletion)
(34) a. *Juan lo compró y   Javier ~~lo~~ leyó.
          Juan it bought and Javier it read
          'Juan bought it and Javier read it.'
      b. cf. Juan lo compró y Javier lo leyó.

It also violates Wilder's (1997) condition on forward deletion given in (35), since the auxiliary is preceded and presumably c-commanded (given Kayne's 1994 LCA) by the participle. The effect

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[13]An anonymous reviewer proposes another analysis on which the pronominal element moves out of the second conjunct, with *ga* in the second conjunct treated as a resumptive pronoun which saves the construction from an island violation. There are several problems with this analysis. Thus, one question that arises is why the pronoun is also not pronounced in the raised position outside of the coordination given that the resumptive pronoun strategy normally does not prevent the head of the relevant chain to be phonologically realized. The most serious problem, however, concerns the fact that SC does not have the resumptives-as-island-rescuers strategy, as illustrated by (i) for the island under consideration.

(i) *Auto, Jovan *je* kupio kuću i   razbio *ga*.
     car   Jovan is bought house and ruined it
     'Jovan bought a house and ruined a car.'

of the condition is illustrated by (36). (Examples (36b-c) are from SC. Notice that a parallelism constraint on deletion requires that the deleted element's position is the same as the antecedent's.) For more empirical evidence for the condition, see Wilder (1997) and Wilder and Ćavar (1997).[14]

(35) *Head Condition:* no constituent can be deleted that is c-commanded by an overt X^0 in its conjunct at S-Structure.

(36) a. *John has bought Mary a book and given ~~Mary a book~~.

    b. *Ivan kupuje Mariji knjige i   daje   ~~Mariji knjige~~.

       Ivan buys   Marija books and gives Marija books

    c. cf. Ivan Mariji knjige kupuje i ~~Mariji knjige~~ daje.

Wilder and Ćavar observe that the above problems do not arise under the VP coordination analysis of (30), shown in (32), since if the second conjunct is a VP (or AgroP for that matter), it does not have to contain a deleted auxiliary. Notice, however, that the clause-mate auxiliary and the pronominal clitics are not located in the same head position in (32), the auxiliary clitic being higher than the pronominal clitic.

       In Bošković (2000a, 2001a) I provide evidence that SC clitics are not located in the same head position based on constructions like (37), where the presence of a parenthetical makes a clitic split possible:

(37) a. Oni   *su*, kao što *sam vam*   rekla, predstavili *se*   Petru.

      they are as   am you.dat said   introduced self.acc Petar.dat

      'They, as I told you, introduced themselves to Petar.'

    b. *Oni   *se*, kao što *sam vam* rekla, predstavili *su* Petru.

As a result of the presence of the parenthetical, which introduces an additional I-phrase (an I-phrase boundary immediately follows the parenthetical), each clitic in (37a) is located in the second position of its I-phrase, satisfying (5).[15] What is important for our current purposes is that

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[14]As discussed in Bošković (2001a), I assume that (33) and (35) apply to ellipsis deletion, but not to copy deletion, discussed below.

[15]The example would be unacceptable without the parenthetical because the second clitic would not be located in the second position of its I-phrase. The unacceptability of *Oni su predstavili se Petru* and the acceptability of (37a) show that I-phrase-mate, but not clause-mate clitics, have to cluster together, which indicates that the clitic clustering requirement is prosodic in nature, not

clause-mate clitics in (37a), *su* and *se*, are not located in the same head position. The auxiliary clitic is clearly located higher in the structure than the reflexive clitic. The acceptability of (37a) provides strong evidence against the assumption that SC clitics cluster together in the same position in the syntax.

More evidence against this assumption is provided by VP-fronting data noticed by Damir Ćavar (personal communication) and Wilder and Ćavar (1997). They observe that speakers who allow VP fronting with auxiliary clitics also allow VP fronting to split the clitic cluster, which clearly shows that clause-mate clitics do not have to cluster together.[16]

(38) Dali *ga*   Mariji   *su* Ivan i   Stipe.
    given it.acc Marija.dat are Ivan and Stipe
    'Give it to Marija, Ivan and Stipe did.'

Example (38) provides further evidence that auxiliary clitics are higher in the structure than pronominal clitics.

A different type of argument that SC clitics are not located in the same position in the syntax is provided by subject-oriented sentential adverbs. As discussed in Bošković (2001a), auxiliary clitics can be higher than such adverbs, as indicated by the availability of the sentential-subject reading of the adverb in (39). Significantly, pronominal object clitics cannot occur above subject-oriented adverbs. Example (40) is fully acceptable only on the manner reading.

(39) Oni *su*   pravilno odgovorili Mileni.
    they are correctly answered   Milena.dat
    'They did the right thing in answering Milena.'
    'They gave Milena a correct answer.'

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syntactic (i.e., it does not follow from a requirement that clause-mate clitics be located in the same position syntactically). See in this respect Bošković (2000a, 2001a) and the discussion in section 1.1. Notice that *Oni su se, kao što sam vam rekla, predstavili Petru* is also acceptable.

[16]Some speakers do not allow fronting of the complement of an auxiliary clitic at all. For relevant discussion, see Bošković (2001a), Browne (1975), Caink (1998), Schütze (1994), Tomić (1996), and Wilder and Ćavar (1994a). It appears that Croatian, but not Serbian, allows it. As noted in fn. 35, speakers who accept (38) also accept *Dali Mariji su ga Ivan i Stipe*. See section 1.4. for relevant discussion.

(40) Oni   *su joj*   pravilno odgovorili.

      they are her.dat correctly answered

      '*They did the right thing in answering her.'

      'They gave her a correct answer.'

Apparently, auxiliary clitics can occur higher than subject-oriented adverbs. Pronominal object clitics, on the other hand, cannot. It must then be the case that the two do not occur in the same structural position. More precisely, auxiliary clitics must be higher in the structure than pronominal clitics.[17]

      There is also evidence that pronominal clitics themselves are not located in the same head position. Thus, Stjepanović (1998a,b, 1999) observes that, as illustrated in (41), constructions in which VP ellipsis leaves behind a dative clitic while eliding an accusative clitic are acceptable, whereas constructions in which VP ellipsis strands an accusative clitic and elides a dative clitic are unacceptable.

(41) a. ?Mi *smo mu*   *ga*   dali, a   i   vi *ste mu*   ~~*ga*   dali~~ (takodje).

       we are him.dat it.acc given and also you are him.dat it.acc given too

       'We gave it to him, and you did too.'

    b. *Mi *smo mu ga* dali,   a i vi *ste ga ~~mu~~* ~~dali~~   (takodje).

Stjepanović interprets the contrast as indicating that the dative and the accusative clitic are located in different maximal projections, the dative clitic being structurally higher than the accusative clitic.

      More evidence for the conclusion is provided by the clitic climbing data discussed in Stjepanović (1998b, 1999). Progovac (1993) shows that clitic climbing is marginally possible out of the finite complement embedded under verbs like *željeti* 'want', as shown in (42). Stjepanović observes that if the *da*-clause embedded under *željeti* contains two pronominal clitics, it is possible to climb only one of the clitics into the matrix clause. When this happens in constructions containing a dative and an accusative clitic, the dative clitic is the one that moves into the matrix clause (see (43)).

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[17]One could try to use sentential adverbs on a par with parentheticals to split a clitic cluster. However, an interfering factor here is that, in contrast to parentheticals, sentential adverbs like *pravilno* are not naturally parsed as separate I-phrases, which is a prerequisite for using them to split a clitic cluster.

(42) a. Milan želi   da *ga* vidi.
        Milan wants that him sees
          'Milan wants to see him.'
     b. ?Milan *ga* želi da vidi.
(43) a. ?Marija *mu*   želi   da *ga*   predstavi.
        Marija him.dat wants that him.acc introduces
        'Marija wants to introduce him to him.'
     b. *Marija *ga* želi da *mu* predstavi.

Stjepanović observes that the contrast in (43) readily follows if the dative clitic is structurally higher than the accusative clitic. Example (43b), where the accusative clitic skips the dative clitic, then involves a familiar relativized minimality violation.

The following contrast from Bošković (2001a) confirms that the dative clitic is higher than the accusative clitic:

(44) ??Oni *su mu*,   kao što s*am vam*   rekla, predstavili *ga*   juče.
        they are him.dat   as   am you.dat said   introduced him.acc yesterday
        'They, as I told you, introduced him to him yesterday.'
(45) *Oni *su ga*, kao što *sam vam* rekla, predstavili *mu* juče.

The above data provide evidence that the auxiliary clitic, the dative clitic, and the accusative clitic are located in different positions, the auxiliary clitic being higher than the pronominal clitics and the dative clitic being higher than the accusative clitic. Given that, as suggested in Watanabe (1993) and Bošković (1995, 1997a), subject-oriented adverbs are TP-adjoined,[18] the data in (39)-(40) provide evidence that the auxiliary clitic is located above TP, and the pronominal clitics below TP. All the data considered above can be straightforwardly accounted for if auxiliary clitics move (or can move) overtly to Agrs, which is higher than TP, and pronominal object clitics are located in their Case-checking agreement projections (AgroPs), which are lower than TP. The fact that the dative clitic is higher than the accusative clitic can be readily captured if the dative clitic is located in AgrioP and the accusative clitic in AgrdoP, AgrioP being higher in the structure than AgrdoP. (See also Bošković 2000a, 2001a and Stjepanović 1998a,b, 1999. A similar analysis was proposed for Czech by Toman 1999.)[19]

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[18]See Cinque (1998) for a much more detailed discussion of position of adverbs.

[19]Another possibility in the multiple-specifiers framework is that the dative and the accusative clitic are located in distinct specifiers of the same head, possibly Agro or Chomsky's (1995) v,

(46) $[_{AgrsP}$ auxiliary-clitic $[_{AgrioP}$ dative clitic$_i$ $[_{AgdroP}$ accusative clitic$_j$ $[_{VP}$ t$_i$ main verb t$_j$]]]]

The current analysis provides a principled explanation of Browne's (1975) observation that second position clitics cannot occur as complements of a preposition in SC, illustrated by the ungrammaticality of (47).[20]

(47) *Prema   *mu*   trče.
    toward him.dat run
    'They are running toward him.'

As discussed in Abels (2001a) and Bošković (2001a), the ungrammaticality of (47) confirms the claim that SC pronominal clitics must move to their Case-checking position overtly. Suppose that, as argued in Watanabe (1993), Abels (2001a), and Bošković (2001a, 2002c), Case-checking within a traditional PP takes place in an AgrP dominating the PP. (This is on a par with Case-checking "within" VP and TP.) The problem with (47) is then that the clitic did not move to its Case-checking position overtly. (The problem does not arise in (21), where I assume *Mileni* does not have to move to its Case-checking position overtly.) Notice that moving the clitic in (47) to

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with the dative clitic being located in the higher and the accusative clitic in the lower specifier. Notice that although the analysis in the text assumes Agr phrases, it can be easily restated in an Agr-less framework. Notice also that main verbs in SC can undergo short V-movement, which I ignore here (see Bošković 2001a and Stjepanović 1998c, 1999 for relevant discussion).

[20]Browne (1975) observes that SC has a set of non-second position accusative clitics which can occur as complements of prepositions taking accusative complements. (This usage is archaic.)

(i) Marko gleda na nj.
   Marko looks on him
   'Marko is looking at him.'

The claim in the text concerning location in Case-checking positions in overt syntax does not refer to these elements. It refers only to second position clitics. (Browne actually does not call the pronominal element in (i) a clitic. He observes an interesting fact that *na nj* is stressed, though the preposition *na* on its own is a proclitic. He also observes that the element in question can be conjoined.) The reader is also referred to Franks (2000b) for discussion of clitics as complements of a preposition in the context of clitics within NP.

SpecAgrpP overtly, as in (48), does not help since preposition stranding is not possible in SC, as shown in (49).[21]

(48) *da [$_{AgrpP}$ *mu*$_i$ [$_{VP}$ prema t$_i$]] trče.
　　　that　　him.dat toward　　run

(49) a. *Kome$_i$　oni trče [$_{PP}$ prema t$_i$]?
　　　　who.dat they run　　toward
　　　　'Who are they running toward?'

　　b. cf. Prema kome$_i$ oni trče t$_i$?

　　　　Having established the structural position of auxiliary and argumental pronominal clitics, I turn now to the ethical dative clitic. As discussed in Bošković (2001a), in contrast to argumental pronominal clitics (see (51)), ethical dative clitics (see (50)) can occur above subject-oriented adverbs. Thus, in contrast to (51), in (50) the adverb can have the sentential as well as the manner reading. (It is difficult to translate ethical dative into English so I ignore it in the translations. See below for discussion of its semantics.)

(50) Oni *su ti*　　pravilno odgovorili Mileni.
　　　they are you.dat correctly answered　Milena.dat　　(you=ethical dative)
　　　　'They did the right thing in answering Milena.'
　　　　'They gave Milena a correct answer.'

(51) Oni *su joj*　　pravilno odgovorili.
　　　they are her.dat correctly answered
　　　　'*They did the right thing in answering her.'
　　　　'They gave her a correct answer.'

Ethical dative then must be structurally higher than argumental dative and accusative clitics. This is not surprising. While argumental pronominal clitics are closely related to the verb, ethical dative clitics are not. Radanović-Kocić (1988) in fact suggests that the ethical dative is a sentential particle. It is then no surprise that it is structurally higher than argumental pronominal clitics. (As discussed by Radanović-Kocić, the ethical dative has an endearing quality. Its

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[21]The exact nature of the ban on preposition stranding in overt syntax in SC does not affect the point made here. For much relevant discussion, see Abels (2001a,b) and Bošković (2002c).

pragmatic function is to express closeness and sympathy between the speaker and the addressee, or to incite the hearer's attention and involve him or her in the narration.)

Notice also that as expected given the adverb data presented above, when both an ethical and an argumental dative are present in a sentence, the ethical dative must precede the argumental dative. This is illustrated in (52).[22]

(52) a. Juče   *sam ti   joj*   pomogla.
      yesterday am   you.dat her.dat help   (you=ethical dative)
      'Yesterday, I helped her.'
   b. *Juče *sam joj ti* pomogla.

I conclude therefore that ethical dative is located higher in the structure than argumental pronominal clitics. Given that ethical dative still follows auxiliary clitics, which are suggested above to be located in Agrs, and that it is higher than sentential adverbs, which are argued to be TP-adjoined in Watanabe (1993) and Bošković (1997a), I tentatively propose that the ethical dative clitic is located in a discourse-oriented projection, which I label as ΔP (the reader should not attach too much importance to the label), located above TP but below AgrsP. The following structure then gives us the basic position of the elements discussed above.[23]

(52) [$_{AgrsP}$ auxiliary clitic [$_{\Delta P}$ ethical dative [$_{TP}$ sentential adverb [$_{AgrioP}$ dative clitic$_i$ [$_{AgrdoP}$ accusative clitic$_j$ [$_{VP}$ t$_i$ main verb t$_j$]]]]]]

The data discussed in this section strongly argue against morphological template analyses of the order of clitics within the clitic cluster (see Halpern 1995 and Schütze 1994, among others).[24] This type of analysis views the clitic cluster as a linearly ordered set of optional slots into which morphemes bearing certain feature combinations are placed. Under the morphological

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[22]See Franks and King (2000), Fried (1999), and Toman (1999) for the corresponding data from Czech. Notice that (52b) is ungrammatical because the first dative cannot be ethical dative, ethical dative being limited to the 1st and 2nd person pronouns.

[23]In section 1.4. I address the issue of where the auxiliary clitic is base-generated.

[24]The same holds for analyses in which the clitic cluster is ordered through arbitrary optimality-theoretic constraint rankings (see Anderson 1996, who outlines such an analysis, and Legendre 1999, 2000, who fleshes it out with respect to Bulgarian and Macedonian clitics, which are discussed in section 2).

template view, the ordering of clitics within the clitic cluster is essentially arbitrary; it does not follow from anything. The syntactic account of the order of clitics is more principled. Under this account the order of clitics within the cluster matches the structural height of the clitics. The above facts strongly indicate that this is indeed the case.[25] The syntactic account of the ordering of clitics within the clitic cluster is obviously conceptually preferable to an arbitrary morphological template which would mirror the syntax by accident. Under the syntactic analysis, the order of clitics within the cluster ultimately follows from the hierarchical arrangement of projections where they are located, which seems to be universal. Thus, under the syntactic account, the order dative clitic-accusative clitic follows from the plausibly universal AgrioP-over-AgrdoP hierarchy, which is moreover not clitic specific (see, for example, Lasnik 1995). Under the morphological template approach, we need language specific and/or clitic specific mechanisms which mirror syntax by accident to get the order dative clitic-accusative clitic.

The morphological template analysis was originally proposed to handle idiosyncrasies of clitic ordering that seem problematic for the syntactic view. (Notice that the morphological template analysis does not explain the idiosyncrasies; it merely provides a formal way of stating them.) The major idiosyncrasy of SC clitic ordering concerns the third person singular auxiliary clitic *je* 'is', which, in contrast to other auxiliary clitics, follows pronominal clitics within the clitic cluster. In section 1.4 I will show that this behavior of *je* is not an accident and that it is consistent with the syntactic view of clitic ordering.

In light of the facts discussed in this section, I conclude that SC clitics are located in different projections in the syntax. The order of clitics within the cluster matches their structural height, which calls for a structural account of the order. Pronominal clitics in SC are located in their Case-checking positions overtly.

1.4 *Je*

We have seen in section 1.3. that auxiliary clitics precede pronominal clitics. They are also higher in the structure than pronominal clitics. The third person singular auxiliary clitic *je* differs from other auxiliary clitics in that it must follow pronominal clitics, as illustrated in (54).

(54) a. Oni *su mu   ga*   predstavili.
         they are him.dat him.acc introduced

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[25]Bošković (2001a) and Franks (1998) show that more subtle clitic orderings that were not discussed in this work are also a result of a hierarchical arrangement of functional projections that house the clitics in question.

'They introduced him to him.'

b. Ona *mu   ga   je* predstavila.

  she him.dat him.acc is introduced

c. *Oni *mu ga su* predstavili.

d. *Ona *je mu ga* predstavila.

As noted above, the idiosyncratic behavior of *je* is often cited as an argument for arbitrary morphological template analyses of the order of clitics within the clitic cluster, which were argued against in the previous section. In this section I will provide a principled, structural account of the idiosyncratic behavior of *je*.

Interestingly, as shown in Bošković (2001a), when applied to *je,* the tests run in section 1.3. with respect to other auxiliary clitics show that in the syntax, *je* is higher than pronominal clitics, just like other auxiliary clitics. More precisely, evidence from VP ellipsis, VP fronting, parenthetical placement, and subject-oriented adverbs placement strongly indicates that in the syntax, *je* is higher than pronominal clitics (see (55)-(58)), just like other auxiliary clitics (see (59)-(62)). (The reader is referred to section 1.3.1 for a more detailed discussion of the tests in question.)

(55) a. Ona *mu   ga   je* predstavila, a i   on *je ~~mu   ga   predstavio~~*.

   she him.dat him.acc is introduced   and also he is him.dat him.acc introduced

   'She introduced him to him and he did too.'

  b. *Ona *mu ga je* predstavila, a i on *mu ga ~~je predstavio~~*.

(56) a. Dao *ga   Mariji   je* Ivan.

   given it.acc Marija.dat is Ivan

   'Give it to Marija, Ivan did.'

  b. *Dao *je Mariji ga* Ivan.

(57) a. ?#On   *je*, #kao što *sam vam   rekla#, predstavio *ga*   Petru#.

    he is   as   am you.dat said   introduced him.acc Petar.dat

     'He, as I told you, introduced him to Petar.'

  b. *#On *ga*, #kao što *sam vam* rekla#, predstavio *je* Petru#.

(58) a. Jovan *je* pravilno odgovorio Mileni.

   Jovan is correctly answered Milena.dat

   'Jovan did the right thing in answering Milena.'

   'Jovan gave Milena a correct answer.'

  b. On *joj   je* pravilno odgovorio.

   he her.dat is correctly answered

'*He did the right thing in answering her.'

'He gave her a correct answer.'

(59) a. Vi *ste mu   ga*   predstavili, a   i   mi *smo ~~mu   ga   predstavili~~*.

        you are him.dat him.acc introduced, and also we are him.dat him.acc introduced

   b. *Vi *ste mu ga* predstavili, a i mi *mu ga ~~smo~~* ~~predstavili~~.

(60) a. Dali *ga*   Mariji   *su* Ivan i   Stipe.

      given it.acc Marija.dat are Ivan and Stipe

      'Give it to Marija, Ivan and Stipe did.'

   b. *Dali *su* Mariji *ga* Ivan i Stipe.

(61) a. ?#Oni   *su*, #kao što *sam vam*   rekla#, predstavili *ga*   Petru#.

       they are   as   am you.dat said   introduced him.acc Petar.dat

        'They, as I told you, introduced him to Petar.'

   b. *#Oni *ga*, #kao što *sam vam* rekla#, predstavili *su* Petru#.

(62) Oni *su* pravilno odgovorili Mariji.

   they are correctly answered Marija.dat

   'They did the right thing in answering Marija.'

   'They gave Marija a correct answer.'

Examples (55a) and (56a) show that VP ellipsis and VP preposing can affect pronominal clitics without affecting *je*. Affecting *je* by these processes without affecting pronominal clitics leads to ungrammaticality, as illustrated by (55b) and (56b). The VP ellipsis and VP fronting data show that *je* is higher than pronominal clitics in the syntax. The fact that, as illustrated by (58), *je* can occur above subject-oriented adverbs (when it does not follow a pronominal clitic) while pronominal clitics cannot points to the same conclusion. That *je* is indeed higher than pronominal clitics in the syntax is conclusively confirmed by the contrast between (57a) and (57b). In all these respects, *je* behaves like other auxiliary clitics (see (59)-(62)). Recall, however, that, as shown in (54), in contrast to other auxiliary clitics, in the final PF representation *je* follows pronominal clitics in the clitic cluster.

     This state of affairs is surprising. We have seen that the relative structural height of clitics matches the order of clitics within the clitic cluster, the highest clitic in the clitic cluster being first in the linear order. This state of affairs can be easily accounted for under the structural account of clitic ordering. From this perspective, *je* exhibits a schizophrenic behavior: it is higher than pronominal clitics in the syntax, but it follows them (which means is lower than them) in the phonology. How can the schizophrenic behavior of *je,* noted in Bošković (2001a), be accounted for? Previous accounts of the clitic order in (54) cannot account for the data in (55)-(58). Tomić

(1996), Franks and King (2000:329-330), and Franks and Progovac (1994) account for (54) by placing *je* and other auxiliary clitics in different positions syntactically; in particular, by placing *je* below pronominal clitics and other auxiliary clitics above pronominal clitics at S-Structure.[26] The data in (55)-(58) show that *je* is higher than pronominal clitics in the syntax.

So, how can we account for the dual behavior of *je* with respect to syntax and phonology? Apparently, somewhere in PF *je* and adjacent pronominal clitics are somehow "switched". Given all the arguments against PI in section 1.2. and more generally arguments against PF movement in Bošković (2001a), it would be desirable to achieve "the switch" without actual PF movement. It is shown in Bošković (2001a) that the dual behavior of *je* can be accounted for in a principled way without any PF movement under Franks's (1998, 2000a) approach to the pronunciation of non-trivial chains.

It is standardly assumed that only the head of a non-trivial chain can be pronounced. However, Franks (1998) (for relevant discussion and examples, see also Bobaljik 1995, Bošković 2000b, 2001a, 2002b, Bošković and Franks 2002, Franks 2000a, Hiramatsu 2000a,b, Lambova 2002, and Pesetsky 1997, 1998) proposes that a lower copy of a non-trivial chain is pronounced in PF iff this is necessary to avoid a PF violation.[27] One argument for the proposal given in Bošković (2000b, 2002b) involves multiple wh-fronting.

A number of languages require all wh-phrases to be fronted in questions. One such language is Romanian, as illustrated in (63).

(63) a. Cine ce   precede?
       who   what precedes
       'Who precedes what?'
    b. *Cine precede ce?

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[26]Franks and Progovac also offer an alternative analysis on which pronominal clitics left-adjoin to *je* and right-adjoin to all other auxiliaries. Needless to say, this analysis is very stipulative.

[27]The mechanism of pronunciation of lower copies motivated by PF considerations is very different from PI (for relevant discussion, see Bošković 2001a, especially p. 172). It is obviously very different from it theoretically. The two mechanisms also differ empirically. Thus, PI affects only PF adjacent elements, which is not the case with the mechanism of pronunciation of lower copies. However, the application of the latter mechanism depends on the presence of copies/traces, which is not the case with PI. As a result, none of the constructions that were argued in section 1.2 to be a problem for PI raise a problem for the pronunciation of lower copies analysis, discussed in more detail below.

However, as observed in Bošković (2000b, 2002b), the second wh-phrase does not move in Romanian if it is homophonous with the first fronted wh-phrase.

(64) Ce   precede ce?
     what precedes what
(65) *Ce ce precede?

Following a proposal concerning Bulgarian made in Billings and Rudin (1996), I propose in Bošković (2000b, 2002b) that Romanian has a low-level PF constraint against consecutive homophonous wh-phrases, which rules out (65). (In Bošković 2000b, 2002b I show that the same holds for a number of Slavic multiple wh-fronting languages.) What about (64)? Given that there is a syntactic requirement that forces all wh-phrases to move overtly in Romanian (I argue that the requirement involves focalization), the second wh-phrase should also be moving in the syntax. Example (64) should then have the S-Structure in (66). (I am ignoring copies of the first wh-phrase.)

(66) Ce ce precede ce?

If, as we normally do, we pronounce the highest copy of the second wh-phrase in (66), a PF violation obtains: we end up with a sequence of homophonous wh-phrases. This is precisely the situation where we are allowed to pronounce a lower copy under Franks's approach to the pronunciation of non-trivial chains. I argue in Bošković (2000b, 2002b) that this is exactly what happens in (66).

(67) Ce ~~ce~~ precede ce?

This analysis enables us to derive (64) and account for the contrast between (64) and (63b) without violating the syntactic requirement that forces all wh-phrases to move overtly in Romanian, without look-ahead from the syntax to the phonology, and without any PF movement.

 There is independent evidence that the second *ce* in (64) has indeed moved in the syntax. Thus, it can license a parasitic gap (see (68)), which, as is well-known, can only be licensed by overt movement. In this respect, the "*ce*-in-situ" patterns with *what* in (69), rather than *what* in (70), as expected under the proposed analysis.

(68) Ce   precede   ce   fără   să   influențeze?

     what precedes what without subj.particle influence.3p.sg

     'What precedes what without influencing?'

(69) What did John read without filing?

(70) *Who read what without filing?

Based on this and other arguments given in the works cited above, I will assume that the tail of a chain can indeed be pronounced instead of the head of a chain iff a PF condition requires it.[28]

     Returning now to *je*, our job is twofold. First, we need to account for the fact that, in spite of following them in the phonology, *je* is higher than pronominal clitics in the syntax. Second, we need to account for the fact that *je* is higher in the structure in the syntax when it occurs alone than when it occurs with a pronominal clitic, as indicated by the contrast between (58a) and (58b). In (58a), where *je* is the only clitic*, je* is higher than the adverb even on the sentential reading of the adverb. This is not the case in (58b), where *je* cooccurs with a pronominal clitic. A related fact to be accounted for is that *je* follows clause-mate pronominal clitics only when it is in a clitic cluster, as the contrast between (54) and (57) with respect to the linear order of *je* and *ga* shows.

     Before accounting for the dual behavior of *je* we need to address the issue of the structure of periphrastic constructions in SC. Recall that, as discussed in section 1.3., pronominal clitics

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[28]Notice that in the pronounce a copy analysis, (ia) and (37a), repeated here as (ib), can both be analyzed as having the reflexive clitic above the participle. A lower copy of the reflexive clitic is pronounced in (ib) in order to avoid having a reflexive clitic immediately follow an I-phrase boundary, which follows *rekla*.

(i) a. Oni *su se*   predstavili Petru.

     They are self.acc introduced Petar.dat

     'They introduced themselves to Petar.'

  b. Oni *su*, kao što *sam vam*   rekla, ~~se~~ predstavili *se*   Petru.

     they are as   am you.dat said   introduced self.acc Petar.dat

     'They, as I told you, introduced themselves to Petar.'

As noted in fn. 15, the parenthetical can also follow the highest copy of the reflexive, as in *Oni su se, kao što sam vam rekla, predstavili Petru*.

are hierarchically arranged in different maximal projections in the syntax. More precisely, they are located overtly in their Case-checking Agro projections. Den Dikken (1994) argues that in SC constructions involving the auxiliary verb *be,* object agreement projections are generated above the VP headed by *be*. Given that in the syntax all clitic forms of the auxiliary *be* precede pronominal clitics, it must be the case that the auxiliary undergoes overt movement to a head position above pronominal clitics, which was suggested above to be the highest head in the split I, namely, Agrs. Constructions involving a dative and an accusative clitic as well as the auxiliary clitic *je* then abstractly have the S-Structure in (71).

(71) je_i [$_{AgrioP}$ dative clitic [$_{AgrdoP}$ accusative clitic [$_{VP/AuxP}$ je_i ...]]]

Notice that a copy of *je* is present both above and below pronominal clitics. Suppose now that there is a low level constraint on the final PF representation requiring that in a clitic cluster (i.e. a sequence of two or more clitics) *je* must follow all other clitics.[29] The constraint would force the pronunciation of *je* in the tail of the chain created by its movement in (71). Since the pronunciation of *je* in the head of the chain would lead to a PF violation, pronunciation in the tail of the chain is sanctioned, in fact, required.[30] Since on this analysis, *je* is higher than pronominal clitics in the syntax, the data in (55)-(58) can be easily accounted for. (The PF constraint in question is irrelevant in (55)-(57) since *je* is not a part of a clitic cluster in the final PF representation. Therefore, the highest copy of *je* is pronounced.) Notice also that the fact that *je* can precede a subject-oriented adverb only when it does not follow a pronominal clitic (see (58a-b)) is also accounted for. The reason why *je* exhibits different behavior with respect to structural height when it occurs alone and when it cooccurs with a pronominal clitic is that in the former case we are pronouncing the highest copy of *je*, which is higher than sentential adverbs, while in the latter case we are pronouncing a lower copy of *je*, which is lower than sentential adverbs. The dual behavior of *je* with respect to pronominal clitics--*je* precedes pronominal clitics, i.e., it

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[29]I am using here the traditional term clitic cluster for ease of exposition. What I really have in mind is the clitic group, which is a prosodic unit. I am not positing here any kind of syntactic clustering of clitics. It is important to bear this in mind. Below I give a more precise formulation of the requirement in question. I also provide principled motivation for the requirement.

[30]In Bošković (2001a:128) I suggest that the exceptional ordering of the reflexive clitic *se,* which follows other pronominal clitics, can be accounted for in a similar way. As noted in this work, this analysis explains the well-known *je*-drop in the presence of *se*. (Other auxiliary clitics cannot be dropped in the presence of *se*.) See, however, Bošković (2001a:60) and references therein for another approach to *se*.

is higher than pronominal clitics, in the syntax, but follows them in the final PF representation-- as well as the dual behavior of *je* with respect to structural height--it is higher in the structure when it occurs alone than when it cooccurs with a pronominal clitic, is thus accounted for.[31] Furthermore, this is done without positing any PF movement.

A question arises now what the source of the PF requirement on *je* is. Bošković (2001a), Browne (1975), Schütze (1994), and Tomić (1996) observe that *je* is in the process of losing its clitichood with respect to a number of phenomena, where *je* behaves differently from other auxiliary clitics. (However, *je* has not completely ceased to be a clitic, so it still cannot occur sentence initially. In other words, it is still subject to (5).)[32] It seems plausible that this should lead to placing *je* at the very edge of the clitic cluster, given that non-clitic material that does not form a separate I-phrase (and *je* clearly cannot form an I-phrase on its own) cannot intervene between clitics in a clitic cluster in SC, as discussed in section 1.1. We would then expect a development of a low level constraint that would force *je* to be located either in the initial or the final position of the clitic cluster. We can assume that the final position is chosen arbitrarily. However, we may be able to do better than that. If, following a suggestion by Klaus Abels (personal communication), we assume that as a result of being in the process of losing its clitichood, *je* does not allow cliticization across it but is not strong enough to serve as a clitic host itself, we would be forced to pronounce *je* following all other clitics. The peculiar requirement that *je* follows all other clitics is thus explained.

There is another way to force *je* to be located in the cluster final, rather than the cluster initial position. Under the current analysis, the only way to place *je* at the edge of a clitic cluster is to pronounce one of the members of the chain created by the movement of *je* at the edge of the cluster. This can be easily accomplished for all cases by pronouncing the tail of the chain, since the tail is always located lower than other clitics. The desired result, however, cannot be *consistently* achieved by pronouncing the head of the chain created by the movement of *je* since the head of the chain is located lower than the question clitic *li,* as the following construction, where the auxiliary clitic follows *li*, shows.[33]

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[31]An anonymous reviewer observes that under the morphological template analyses *je* is also required to follow all clitics in a clitic cluster. However, in contrast to the current analysis, these analyses leave the dual behavior of *je* with respect to the syntax and phonology unexplained.

[32]Alternatively, it is possible that *je* has not yet fully gained its clitic properties. The analysis given below, taken from Bošković (2001a), can be easily extended to this view.

[33]This way (i.e. by pronouncing the head of the *je*-movement chain) the desired result can be achieved for some but not *all* relevant cases. The reader is also referred to Bošković (2001a:131)

(72) Kola *li si mu* dao?
　　 car　Q are him.dat given
　　 'Was it a car that you gave him?'

I conclude therefore that the PF requirement on *je* proposed above can be explained in a principled way. The requirement has developed as a consequence of *je* losing its clitichood. It's task is to pull *je* to the edge of the clitic cluster so that (5) can be satisfied in clitic clusters involving *je*.

　　　I now turn to additional data involving *je*, pointed out to me by Damir Ćavar (personal communication), which were not discussed in Bošković (2001a). I will show that the data in question can also be straightforwardly accounted for under the above analysis of *je*. They will furthermore give us an additional insight into the derivation of periphrastic constructions.

　　　Consider first the following data noted by Ćavar.

(73) a. [Dao *ga* Mariji]　*je* Ivan.
　　　　 given it.acc Marija.dat　is Ivan
　　　　 'Give it to Marija, Ivan did.'
　　 b. [Dali *ga* Mariji]　*su* Ivan i Stipe.
　　　　 given it.acc Marija.dat are Ivan and Stipe
　　　　 'Give it to Marija, Ivan and Stipe did.'

Both constructions in (73) involve fronting of a phrase below the auxiliary clitic. We can see that *je* behaves like other auxiliary clitics in that the fronted phrase, located somewhere in the complement of the auxiliary clitic, can contain a pronominal clitic. There are several ways of analyzing (73). One possibility is to analyze it as involving AgroP fronting. The constructions

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and references therein for arguments that the initial *je* in (i), which contrasts with (ii), is not the auxiliary clitic *je*. Rather, *jeli* is a non-clitic counterpart of the clitic *li* (see also Browne 1975, Radanović-Kocić 1988:45-49, and Tomić 1996).

(i) Je *li* (*je*) on istukao Petra?
　　 Q　is he beaten Petar
　　 'Did he beat Petar?'
(ii) *Si* *li* ti istukao Petra?
　　 are Q you beaten Petar
　　 'Did you beat Petar?'

will then involve lower pronunciation of the pronominal clitic within VP, which is necessary to satisfy the enclitic requirement on SC clitics, plausibly a PF requirement. (Recall that a lower copy can be pronounced if this is necessary to avoid a PF violation.)[34]

(74) a. [$_{AgroP}$ ~~ga~~ dao *ga* Mariji] *je* Ivan.

    b. [$_{AgroP}$ ~~ga~~ dali *ga* Mariji] *su* Ivan i Stipe.

As observed by Damir Ćavar (personal communication), who provided the following data, a very interesting contrast obtains when in a double object construction we attempt to pronounce a pronominal clitic with the auxiliary. This cannot be done in a construction with *je*, but can be done with other auxiliaries.[35]

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[34]There are two alternatives to this analysis explored in Bošković (2001a, chapter 3) that would allow pronunciation of the pronominal clitic in AgroP. One possibility is that both the participle and the pronominal clitic head move to Agro. (Assuming that the clitic is a non-branching element, in Chomsky's 1995 system it would be ambiguous between a phrase and a head and could therefore move to either SpecAgroP or Agro.) Both the participle and the clitic could then be located in their highest position in Agro in (73) (see Bošković 2001a for details of the analysis). Another possibility explored in Bošković (2001a) is that the participle moves to a participial affix head Part^0, which takes AgroP as its complement (see also Bošković 1997a for relevant discussion). On this analysis, (73) would involve PartP fronting and the pronounced copy of the clitic could be located in SpecAgroP. Notice, however, that the participle movement to Part/Agro could not be obligatory given the discussion of (76) and (78) below.

[35]Ćavar does not give *[Dao joj knjigu] je Ivan*, which is expected to be acceptable given the grammaticality of (73a). Notice also that the contrast between *je* and other auxiliaries also obtains if the accusative is left behind.

(i) a. *[Dao Mariji]   *ga*   *je* Ivan.

       given Marija.dat it.acc is Ivan

  b. ?[Dali Mariji]   *su ga*   Ivan i   Stipe.

      given Marija.dat are it.acc Ivan and Stipe

      'Give it to Marija, Ivan and Stipe did.'

The relative grammaticality of (ib) is not surprising either if lexical dative NPs do not have to undergo overt object shift or if double object constructions involving a lexical NP correspond to, or at least can correspond to, the English *to*-phrase double object construction, where the theme

(75) [Dao Mariji   knjigu]   *je* Ivan.
  given Marija.dat book.acc is Ivan
  'Give Marija the book, Ivan did.'

(76) *[Dao knjigu]   *joj*   *je* Ivan.
  given book.acc her.dat is Ivan

(77) [Dali *joj*   knjigu]   *su* Ivan i   Stipe.
  given her.dat book.acc are Ivan   and Stipe

(78) ?[Dali knjigu] *su joj*   Ivan i   Stipe.
  given book.acc are her.dat Ivan and Stipe

Under the arbitrary morphological template approach to clitic ordering, the ungrammaticality of (76) is surprising in light of the acceptability of (78). There is nothing in this approach, where the order of clitics within the clitic cluster is simply stipulated, that could give us the contrast between (76) and (78). Tomić's (1996), Franks and King's (2000:329-330), and Franks and Progovac's (1994) analyses, which in order to account for (54) assume that *je* is lower in the structure than pronominal clitics, also fail to account for the contrast in question. (Recall that these analyses also fail to account for the data in (55)-(58), which show that *je* is higher than pronominal clitics in the syntax.) The same holds for the Franks and Progovac suggestion from fn. 26. So, how can we account for the ungrammaticality of (76) given that, as indicated by (78), the relevant fronting operation is possible in the syntax?[36]

  The current account of the *je*-final effect makes it possible to account for the mysterious contrast between (76) and (78) in a principled way. Recall that under the current analysis, auxiliary *je* constructions and constructions involving other clitic forms of *biti* 'be' do not differ at all in their syntactic derivation. The only difference between the two concerns PF. In the presence of a PF-adjacent pronominal clitic, we always pronounce a lower copy of *je*. With other auxiliary clitics, if there are no other interfering factors, the highest copy of the auxiliary is pronounced even in the presence of a pronominal clitic. The contrast between (76) and (78) can then be straightforwardly accounted if there is no copy of the auxiliary clitic following the

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is higher in the structure than the goal. Having free goal theme/theme goal order in double object constructions involving a lexical NP, as proposed in Stjepanović (1999) (see also Miyagawa 1997 for Japanese), may also be a possibility. It is worth noting here that the application of height tests to double object constructions with lexical NPs does not give completely clear results in SC (see Stjepanović 1999).

[36]Needless to say, *Dao knjigu je joj Ivan* is also unacceptable.

pronominal clitic in the remnant of the VP fronting in the constructions in questions.[37] This assumption makes (76) underivable without affecting the acceptability of (78). On the other hand, accomplishing this seems to be impossible under the morphological template approach, where the two constructions should have the same status.

Let us now fill in the details of the analysis. The first question to address concerns the status of the phrase undergoing fronting in (76) and (78). One possibility is that the phrase is what is labeled as VP/AuxP in (71), i.e. the phrase where the auxiliary is base-generated. Both the auxiliary and the clitic would undergo movement out of that phrase prior to the fronting. The auxiliary, which morphologically agrees only with the subject, would move to Tense and then to Agrs; it would not move through Agro phrases.[38] Where is the subject located? We may be dealing here with the notorious issue of the position of postverbal subjects in pro-drop languages, resolving which goes well beyond the scope of this paper. I will simply locate the subject in a phrase whose label I leave open.[39] I indicate only the traces of the clitics. (The participle could actually be moving to the auxiliary, which would be followed by auxiliary excorporation; see Bošković 1997a. In (79) I give the structure for (78). Example (76) has the same structure.)

(79) [$_{VP/AuxP}$ t$_i$ [$_{VP}$ Dali t$_j$ knjigu]] [$_{AgrsP}$ *su*$_i$ [$_{TP}$ t$_i$ [$_{AgroP}$ *joj*$_j$ [$_{XP}$ Ivan i Stipe]]]]

There is only one issue left to be addressed. Given the structure in (79) it is clear why (76) is unacceptable. There is no copy of the auxiliary following the pronominal clitic, hence the auxiliary cannot be pronounced following the pronominal clitic. Could we pronounce the auxiliary in the position of its original trace in Aux? Given the structure in (79), this should lead

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[37]Recall that following Bošković (2001a) I assume that there is no PF movement. The only relevant way for PF considerations to affect word order is by licensing pronunciation of a lower copy.

[38]Technically, the analysis violates the Head Movement Constraint. However, following standard assumptions, I assume that the constraint has no status in the grammar.

[39]There are several possibilities concerning how the subject would get to this position. Given that SC is a heavily scrambling language, we could be dealing here with scrambling. SpecAgrsP could be either empty or filled by a null expletive. Or the subject could actually be moving to SpecAgrsP through XP, a lower copy of the subject being pronounced to avoid violating the second position requirement on clitics (see Bošković 2001a for several cases where the subject is pronounced in a lower position for this reason). Another possibility is right dislocation or, more generally, base generation of the subject in the position in question.

to a violation of the enclitic requirement on the auxiliary clitic (cf. *Je dao knjigu joj Ivan*). However, if, as suggested in Bošković (1997a), the participle actually adjoins to the auxiliary in Aux, after which the auxiliary excorporates to move to a higher head position, we could end up with *Dao je knjigu joj Ivan,* where the enclitic requirement on the auxiliary clitic is satisfied. Can this derivation be blocked? There are several rather straightforward ways to block it. One possibility is to assume that, as in English, I (i.e. Agrs/T) must be lexicalized in constructions involving VP fronting.[40] Recall also that the constraint that normally licenses lower pronunciation of *je* in the presence of a pronominal clitic requires that *je* be pronounced at the right edge of the clitic cluster. Let us assume that this is the proper formulation of the constraint: Pronounce *je* at the right edge of a clitic cluster. (Recall that clitic cluster is a sequence of more than one clitic.) The constraint can only license lower pronunciation of *je* if this will lead to the pronunciation of *je* at the right edge of the clitic cluster. This, however, is not the case with the pronunciation of *je* in Aux. Hence, the constraint in question cannot license this pronunciation.[41]

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[40]Taking the requirement literally would actually block the pronunciation of the auxiliary following the pronominal clitic even if there were a copy of the auxiliary clitic following the pronominal clitic.

[41]Another possibility is to appeal to a suggestion made in Bošković (2001a) for other South Slavic languages that clitics belonging to the same I-phrase must be parsed into a prosodic constituent which attaches to its host as a unit. The requirement obviously cannot be satisfied if the auxiliary clitic is pronounced in the fronted VP in (79). This analysis makes an interesting prediction. Notice that in all the cases above where clause-mate clitics are not adjacent and therefore cannot form a prosodic constituent, the clitics are not located in the same I-phrase. As discussed in Bošković (2001a), a fronted VP in SC can be, but does not have to be, parsed as a separate I-phrase. The option of parsing the fronted VP as a separate I-phrase, as a result of which the auxiliary clitic pronounced in the fronted VP and the pronominal clitic in AgroP would not be I-phrase-mates, cannot be taken in (79) since this would lead to an I-phrase boundary intervening between the pronominal clitic and its host, which is disallowed (see Bošković 2001a). However, the problem does not arise in (i), where the fronted VP is parsed as a separate I-phrase. (An adverb is added because constructions with sentence final clitics are sometimes disfavored.)

(i) [Dao   *je* knjigu]# Ivan *joj*   (juče).
       given is book.acc Ivan her.dat yesterday

Under the analysis suggested in this footnote we may then expect (i) to be acceptable. This is in

In conclusion, the pronounce-a-lower-copy analysis of the exceptional behavior of *je* provides us with an account of the dual behavior of *je* with respect to pronominal clitics in the syntax and phonology, more precisely, the fact that *je* precedes (i.e. is higher than) pronominal clitics in the syntax, but follows them in the phonology. The analysis also accounts for the dual behavior of *je* with respect to structural height, more precisely, the fact the *je* is higher in the structure when it occurs alone than when it cooccurs with a pronominal clitic. Both of these are accomplished without positing any PF movement. PF is allowed to affect word order, but only through licensing pronunciation of lower copies, not through actual PF movement. The analysis also gives us an account of the otherwise mysterious contrast between *je* and other auxiliaries with respect to leaving a pronominal clitic behind with the auxiliary in constructions involving VP fronting. The analysis of this contrast has provided us with several insights into the derivation of auxiliary+participle constructions.

2. Bulgarian and Macedonian clitics

Bulgarian and Macedonian clitics occur adjacent to the verb in finite clauses like (80) (cf.(80d)). In other words, they are verbal rather than second position clitics in the context in question.[42]

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contrast to (ii), where the lower pronunciation of the auxiliary clitic in the fronted VP is not required, hence disallowed.

(ii) [Dali   *su* knjigu]# Ivan i   Stipe *joj*   (juče).
    given   are book.acc Ivan and Stipe her.dat   yesterday

Unfortunately, not having access to speakers who allow VP fronting in constructions with auxiliary clitics, I am unable to check the prediction of the analysis suggested in this footnote. (The alternative analyses given in the text would predict both (i) and (ii) to be bad.)

[42]The situation is more complicated in certain non-finite clauses in Macedonian, where the second position clitic pattern emerges. I ignore these contexts here. For relevant discussion, see Bošković (2001a), Caink (1998), Franks (1998, 2000a), Franks and King (2000), Legendre (1998, 1999), and Tomić (1996, 1997), among others. Notice that in auxiliary+participle constructions, in constructions with clitic auxiliaries the participle plays the same role as the finite verb in (80) with respect to adjacency, and the auxiliary does when the auxiliary itself is a non-clitic. Some (though not all) Bulgarian speakers do allow some short adverbs to intervene between clitics and the finite verb (see, for example, Krapova 1997, 1999). However, as discussed in Bošković (2001a:181), the adverbs in question incorporate into the verb and thus

(80) a. Petko *mi   go*   dade včera.   B: OK   Mac: OK

    Petko me.dat it.acc gave yesterday

    'Petko gave me it yesterday.'

  b. Včera Petko *mi go* dade   B: OK   Mac: OK

  c. Včera *mi go* dade Petko.   B: OK   Mac: OK

  d. Petko *mi go* včera dade.   B: *   Mac: *

  e. *Mi go* dade Petko včera.   B: *   Mac: OK

  f. Dade *mi go* Petko včera.   B: OK   Mac: *

  g. Dade včera mi go Petko.   B: *   Mac: *

  h. če/deka Petko *mi   go*   dade včera.   B: OK   Mac: OK

    that   Petko me.dat it.acc gave yesterday

The grammaticality of (80h), which is unacceptable in SC, and the fact that the adverb in (80b) does not have to be followed by a pause, in contrast to its SC counterpart, indicate that Bulgarian and Macedonian clitics are not second position clitics. The contrast between Bulgarian and Macedonian (80e) indicates that Bulgarian clitics must encliticize, whereas Macedonian clitics can procliticize. Macedonian clitics always precede the verb in the context in question. Bulgarian clitics precede the verb unless preceding it would result in a violation of their enclitic requirement. In that case they follow the verb. As discussed in Bošković (2001a), this state of affairs can be straightforwardly accounted for under Franks's (1998) copy and delete approach to the pronunciation of non-trivial chains, given that a copy of pronominal clitics is present both above and below the verb (see Bošković 2001a for discussion of the precise position of these copies). Recall that under the copy and delete approach, the tail of a non-trivial chain is pronounced instead of the head iff the pronunciation of the tail of the chain is necessary to satisfy a PF requirement. This approach straightforwardly captures the generalization that the verb can precede a clitic in Bulgarian only when no other lexical material is located in front of the clitic. (Notice the ungrammaticality of (80g).) Only in this situation will we be able to pronounce the lower copy of the clitic, which is located below the verb. If there is lexical material preceding the

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end up being part of the clitics+V cluster. A word of caution is in order regarding using *e* 'is' as the only clitic in testing V-adjacency since, as noted above with respect to SC *je*, *e* is not fully a clitic. (It does not always pattern with other clitics.) For more general discussion of clausal cliticization in Bulgarian and Macedonian, see Alexander (1994), Alexandrova (1997), Avgustinova (1994), Berent (1980), Bošković (2001a), Caink (1998), Čašule (1997), Dimitrova-Vulchanova (1995), Dimitrova-Vulchanova and Hellan (1999), Ewen (1979), Franks (1998), Franks and King (2000), Legendre (1999, 2000), Penčev (1993), Rå Hauge (1976), Rivero (1997), Rudin (1997), Schick (2000), Tomić (1996, 1997, 2000), among others.

clitic in its raised position, the head of the chain of clitic movement has to be pronounced.

(81) a. X clitic V ~~clitic~~

  b. ~~clitic~~ V clitic

Since in Macedonian nothing goes wrong in PF if we pronounce the head of the clitic chain, we always have to pronounce the head of the clitic chain, located above the verb. As a result, the V-clitic order is underivable in Macedonian.

(82) (X) clitic V ~~clitic~~

The contrast in the acceptability of (80e-f) in Bulgarian and Macedonian, as well as the role of phonology in the possibility of the V-cl order in Bulgarian, are thus straightforwardly captured without appealing to any kind of PF movement.

It is standardly assumed that Bulgarian and Macedonian clitics cluster together with the verb in the same head position. There are two reasons for this. First, it is much harder to split the clitics+V cluster, which I will refer to as the extended clitic cluster (ECC), in these languages than in SC, as illustrated by the ungrammaticality of (80d), which is acceptable in SC, as shown in (83).

(83) Jovan *mi ga* juče dade. (SC)

  Jovan me.dat it.acc yesterday gave

  'Jovan gave it to me yesterday.'

As an additional illustration of this fact I give the Bulgarian ellipsis examples in (84), which are acceptable in SC. (See (29a) and (41a)). See also Bošković 2001a for more relevant discussion of Bulgarian and Macedonian.)

(84) a. *Nie *sme mu go* dali i vie *ste ~~mu go dali~~* (sŭšto). (B)

    we are him.dat it.acc given and you are him.dat it.acc given (too)

  b. *Nie *sme mu go* dali i vie *ste mu ~~go dali~~* (sŭšto).

Second, the verb carries clitics along when moving to a higher head position in the languages in question. This is illustrated by the following *li*-constructions from Macedonian, where the verb moves to *li*, standardly assumed to be a Q-marker, carrying the whole clitic cluster (*ne si mu gi* in

(85a) and *ne mi go* in (85b)) along.[43]

(85) a. [*Ne si mu gi* dal]$_i$ *li* t$_i$ parite?   (Mac)
      neg are him.dat them.acc given Q the-money
      'Haven't you given him the money?'
   b. [*Ne mi go* dade]$_i$ *li* t$_i$ včera?
      neg me.dat it.acc gave Q yesterday
      'Didn't he/she/you give it to me yesterday?'

In light of this, consider the following construction.

(86) Ti *ne si mu gi* dal.   (B/Mac)
    you neg are him.dat them.acc given
    'You haven't given them to him.'

The following is the standard analysis of (86) (see, for example, Franks 1998, Franks and King 2000, Rudin 1997, Rudin, Kramer, Billings, and Baerman 1999, and Tomić 1996): *ne si mu gi dal* are all located in separate projections. The verb moves up through successive cyclic rightward adjunctions so that in the end we end up with the *ne si mu gi dal* cluster, with the order within the cluster mirroring the structural height of the relevant elements prior to cluster formation. The reason for assuming that the ECC formation proceeds through rightward adjunction is that the structural height of relevant elements prior to the ECC formation corresponds to the left-to-right order of heads within the ECC. Rightward adjunction preserves the order.

    The above derivation is obviously incompatible with Kayne (1994), which disallows rightward movement. In fact, it is a tacit assumption in the literature on South Slavic clitics that Kayne's Linear Correspondence Axiom (LCA) cannot be maintained, at least not for head

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[43]Bulgarian *li*-constructions involve an interfering factor in that PF requirements on clitics in some cases force pronunciation of lower copies of some clitics. However, it is shown in Bošković (2001a,b) (see also Rudin, Kramer, Billings, and Baerman 1999) that in Bulgarian, the ECC also moves as a unit to *li* in the syntax. For discussion of Bulgarian and Macedonian *li*, see also Rivero (1993), Franks (1998), Franks and King (2000), Izvorski, King, Rudin (1997), King (1996), Rudin (1993), Rudin, King and Izvorski (1998), and Tomić (1996), among others. See also Bošković (2001a) for an analysis of *li* that is fully consistent with the clitics-as-non-branching elements hypothesis, discussed below.

movement (see in this respect Chomsky 1995, who adopts the gist of Kayne's system but leaves open the possibility that it might not be applicable to head movement, essentially through a stipulation).

A question that we need to answer, then, is whether Bulgarian and Macedonian ECC can be formed through leftward instead of rightward head adjunctions while still having the left-to-right order of elements within the ECC reflect the higher-to-lower hierarchical structure of relevant elements prior to the ECC formation. At first sight, the answer seems to be no. However, in Bošković (2001a, 2002a) I show that there actually is a principled way of accomplishing this which resolves a potentially very serious problem for Kayne's (1994) system. More precisely, I show that given economy of derivation, the task at hand can be accomplished if we take seriously Chomsky's (1994) suggestion that clitics are non-branching elements**.**

Chomsky (1994) proposes a phrase-structure system that allows for the existence of elements that are at the same time phrases and heads, the prerequisite for the ambiguous XP/X^0 status of an element X being that X does not branch. (In fact, every non-branching element is automatically both a phrase and a head in Chomsky's 1994 system.) Chomsky mentions clitics as a possible example of such ambiguous XP/X^0 elements. Bošković (1997a) provides empirical evidence for this suggestion, which can be interpreted as a way of capturing the intuition that clitics have less structure than their non-clitic counterparts (assuming that the latter do branch), a position argued for convincingly in Cardinaletti and Starke (1999). Suppose now that clitics are indeed ambiguous XP/X^0 elements, which means that they do not branch. (This would be necessary but not sufficient for something to be a clitic.) This proposal has an interesting consequence for auxiliary clitics. Auxiliary clitics such as the one in Bulgarian (87a) can no longer be analyzed as the head of a phrase taking another phrase as its complement, as shown in (87b). Instead, we can analyze the XP as headed by a null element, with the auxiliary clitic being located in its specifier, as shown in (87c). Since X rather than the auxiliary clitic is taking a complement, the clitic remains non-branching and, therefore, an ambiguous XP/X^0 element.[44]

(87) a. Petko *e* zaminal včera.
      Petko is left   yesterday
      'Petko left yesterday.'
    b. Petko [XP [X' *e* [zaminal včera]]]
    c. Petko [XP *e* [X' X [zaminal včera]]]

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[44]The analysis can also be straightforwardly extended to auxiliary clitics in SC, discussed in section 1.

The negative clitic also can no longer be analyzed as the head of a phrase taking another phrase as its complement. In accordance with the clitics-as-non-branching-elements hypothesis, it is generated as a specifier of a null head, which takes a phrasal complement. Example (86) then has the following S-Structure prior to the ECC formation.[45]

(88) Ti [$_{NegP}$ *ne* [$_{Neg'}$ [$_{AuxP}$ *si* [$_{Aux'}$ [$_{VP}$ *mu* [$_{V'}$ dal *gi*]]]]]]

Recall that under the standard analysis, the clitic-verb complex in Bulgarian is formed by right-adjoining the verb to the clitics. In Bošković (2001a, 2002a) I suggest that the clitic-verb complex is instead formed by left-adjoining the clitics to the verb, which is in accordance with Kayne's (1994) system.[46] I will demonstrate that the leftward adjunction analysis yields the

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[45] I am assuming Marantz's (1993) version of Larson's (1988) VP shell analysis of double object constructions, where the dative is generated in the Spec and the accusative in the complement position of the lower VP shell. I ignore Agr phrases, the higher VP shell, and the trace in SpecVP since they are irrelevant for our current concerns. (As will become obvious during the discussion below, object clitics move overtly to Agro in Bulgarian and Macedonian as part of the ECC.) See, however, Bošković (2001a), where it is shown that the analysis of (86) about to be given can be readily restated in a system where the pronominal clitics are generated within AgroPs. (The reader should bear this in mind.) Bulgarian pronominal clitics are typically suggested to originate outside of VP because the language allows clitic doubling (see, for example, Franks 1998, Franks and King 2000, Rudin 1997, and Tomić 1996). However, there are a number of successful analyses of clitic doubling that are consistent with pronominal clitics originating within VP (see Bošković 2001a:187 and references therein).

[46] Following Baker (1988), I assume that a nominal/pronominal element can be Case-licensed by undergoing head-movement to a Case-licensing head. Notice that being ambiguous XP/X^0 elements, clitics can undergo head-adjunction. As a technical implementation of the adjunction, we can assume that the main verb is lexically specified with an Attract All property in the sense of Bošković (1999) for pronominal and auxiliary clitics. The verb would then attract all pronominal and auxiliary clitics. In Bošković (1999) I show that multiple movement to the same element as a result of an application of the Attract All mechanism generally results in free ordering of elements undergoing the movement. However, this would not happen in the case under consideration as a result of the earliness effect of economy of derivation discussed directly below.

It is also worth noting here that leftward adjunction of a clitic to its host seems to be independently necessary for cases where a lexical, non-clitic auxiliary, which according to

correct order within the ECC given the clitics-as-non-branching-elements hypothesis and the economy of derivation condition that every requirement be satisfied through the shortest movement possible.[47] The gist of the analysis is the following: The verb moves up through empty heads in (88). The clitic-verb cluster is formed by left adjoining the clitics to the verb instead of right adjoining the verb to the clitics, in accordance with Kayne's LCA. Economy of derivation ensures that the order of adjunctions is accusative-dative-auxiliary-negative clitic. (The relevant movements are shortest if they take place as soon as possible, that is, as soon as the verb moves to a position c-commanding a clitic.) Since the adjunctions take place to the left we obtain the desired word order.

Let us spell-out the details of the analysis with respect to the derivation in (89). (I ignore traces of clitics.)

(89) a. Ti [$_{NegP}$ *ne* [$_{Neg'}$ [$_{AuxP}$ *si* [$_{Aux'}$ [$_{VP}$ *mu* [$_{V'}$ dal *gi*]]]]]]

    b. Ti [$_{NegP}$ *ne* [$_{Neg'}$ [$_{AuxP}$ *si* [$_{Aux'}$ [$_{VP}$ *mu* [$_{V'}$ *gi*+dal]]]]]]

    c. Ti [$_{NegP}$ *ne* [$_{Neg'}$ [$_{AuxP}$ *si* [$_{Aux'}$ [*gi*+dal]$_i$ [$_{VP}$ *mu* [$_{V'}$ t$_i$]]]]]]

    d. Ti [$_{NegP}$ *ne* [$_{Neg'}$ [$_{AuxP}$ *si* [$_{Aux'}$ *mu*+[*gi*+dal]$_i$ [$_{VP}$ [$_{V'}$ t$_i$]]]]]]

    e. Ti [$_{NegP}$ *ne* [$_{Neg'}$ [*mu*+[*gi*+dal]$_i$]$_j$ [$_{AuxP}$ *si* [$_{Aux'}$ t$_j$ [$_{VP}$ [$_{V'}$ t$_i$]]]]]]

    f. Ti [$_{NegP}$ *ne* [$_{Neg'}$ *si*+[*mu*+[*gi*+dal]$_i$]$_j$ [$_{AuxP}$ [$_{Aux'}$ t$_j$ [$_{VP}$ [$_{V'}$ t$_i$]]]]]]

    g. Ti [*si*+[*mu*+[*gi*+dal]$_i$]$_j$]$_k$ [$_{NegP}$ *ne* [$_{Neg'}$ t$_k$ [$_{AuxP}$ [$_{Aux'}$ t$_j$ [$_{VP}$ [$_{V'}$ t$_i$]]]]]]

    h. Ti *ne*+[*si*+[*mu*+[*gi*+dal]$_i$]$_j$]$_k$ [$_{NegP}$ [$_{Neg'}$ t$_k$ [$_{AuxP}$ [$_{Aux'}$ t$_j$ [$_{VP}$ [$_{V'}$ t$_i$]]]]]]

Krapova (1999) is categorially non-distinct from a verb, syntactically hosts a clitic, as in (i), under the plausible assumption that the clitic is generated below the auxiliary.

(i) Petko *go* beše pročel.

  Petko it   was read

  'Petko had read it.'

[47]The requirement is responsible for Superiority effects. For example, given the structure in (ia) prior to wh-movement, the requirement in question favors the movement of the first wh-phrase to SpecCP over the movement of the second wh-phrase. The strong +wh-feature of C is checked through shorter movement in (ib) than in (ic).

(i) a. +wh C John tell who that Mary should buy what

  b. Who did John tell t that Mary should buy what?

  c. *What did John tell who that Mary should buy t?

Assuming a c-command requirement on overt movement, the dative clitic cannot incorporate into the verb until the verb moves outside of the VP since the verb does not c-command the dative clitic in its base-generated position. On the other hand, the accusative clitic can incorporate into the verb either before or after V-movement. Notice, however, that the incorporation results in shorter movement if it takes place before the verb moves. Given the economy of derivation condition that every requirement be satisfied through the shortest movement possible, the accusative clitic then has to incorporate into the verb by left-adjoining to it before the verb moves. The dative clitic has to wait for the verb or, more precisely, the accusative clitic+verb complex, to move to a higher head position and then undergoes incorporation into it through left-adjunction.[48] We derive the correct order dative clitic-accusative clitic-verb.

We see here a very interesting consequence of economy of derivation, which requires that every syntactic requirement be satisfied through the shortest movement possible. Economy of derivation imposes a sort of earliness requirement on the movement of X to Y if Y is to undergo further movement to Z. X must move to Y as soon as possible; in particular, before Y moves to Z. (For more examples of this kind, see Bošković 1997a:154-156.)[49]

The rest of the derivation in (89) is straightforward. The auxiliary and the negative clitic have to wait for the dat+acc+V complex to move to a position c-commanding them in order to undergo incorporation into the complex through left-adjunction. Economy of derivation forces the following order of incorporation: 1. auxiliary clitic 2. negative clitic, since this way the incorporation results in the shortest movements possible. We then obtain the desired word order

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[48]If multiple adjunction to the same head is not allowed, as argued by Kayne (1994), the dative clitic would actually left-adjoin to the accusative clitic, which is itself left-adjoined to the verb. Notice that Kayne (1994) suggests that clitics do not adjoin to the finite verb. One could, however, quite easily make room for such adjunction to take place in Bulgarian and Macedonian, which seems necessary on empirical grounds, while still maintaining the gist of Kayne's system. (Kayne's suggestion was made based on certain assumptions concerning the LCA and the sub-word level structure that do not seem necessary.)

[49]Richard Kayne (personal communication) observes that the desired result can also be achieved by appealing directly to Pesetsky's (1989) Earliness Principle. Adopting Bošković's (1998) version of Chomsky's (1995) definition of strong features (i.e. features that drive overt movement), according to which strong features must be checked as soon as possible, would also have the desired result.

negative clitic-auxiliary clitic-dative clitic-accusative clitic-verb.[50]

I conclude, therefore, that we can account for word order within the ECC in Bulgarian and Macedonian (more precisely, the fact that the structural height of relevant elements prior to the ECC formation corresponds to the left-to-right order within the ECC) without employing rightward adjunction.

The above analysis of (86) is essentially forced on us by economy of derivation, the clitics-as-non-branching-elements hypothesis, and the LCA. All the crucial ingredients of the analysis are forced, or, more appropriately, provided for free, by one of these three mechanisms. The clitics-as-non-branching-elements hypothesis forces generation of clitics in Spec positions, economy of derivation imposes a particular ordering of clitic adjunctions, and the LCA forces the adjunctions to proceed to the left. The fact that the mechanisms in question conspire to force an analysis that turns out to give us exactly what we need empirically provides strong evidence for the mechanisms involved. It is also worth emphasizing that the current analysis achieves a uniform treatment of pronominal, negative, and auxiliary clitics (see also Bošković 2001a for *li*). As Steven Franks (personal communication) observes, under the current analysis, which combines the X^0 and XP analyses of clitics, clitics are generated as morphological heads in syntactic phrase positions. The fact that they are morphological heads makes it possible for them to undergo head movement.

To summarize, in contrast to SC, Bulgarian and Macedonian have ECC formation (i.e. clitics and the verb form a complex head in these languages). Contrary to standard assumptions, the order within the ECC can be accounted for without assuming rightward adjunction given that clitics move to the verb instead of the verb moving to clitics, as standardly assumed.

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[50]The reader is referred to Bošković (2001a) for demonstration how the *is*-final effect, which Bulgarian also has, is captured in the current system.

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